

CLAIMS

What is claimed is:

1. A method for classifying an audio signal, the method comprising:
 - receiving an audio signal to be classified;
 - analyzing selected audio signal components;
 - recording a result of analysis of the selected audio signal components;
 - comparing the recorded result of analysis to a threshold value; and
 - classifying the audio signal based upon comparison of the recorded result of analysis and the threshold value.
2. The method according to claim 1, wherein classifying the audio signal based upon comparison of the recorded result of analysis and the threshold value further comprises:
 - if the recorded result of analysis is greater than the threshold value, then the audio signal is determined to be music; and
 - if the recorded result of analysis is less than the threshold value, then the audio signal is determined to be speech.
3. The method according to claim 1, wherein analyzing the selected audio signal components comprises counting zero point transitions of the selected audio signal components.

4. The method according to claim 1, wherein recording a result of analysis of the selected audio signal components comprises recording a count value of a number of zero point transitions of the selected audio signal components.

5. The method according to claim 1, wherein transmitting components of the audio signal having a frequency less than a predetermined frequency comprises passing the audio signal through a low pass filter, the low pass filter being adapted to permit transmission of frequencies below the predetermined frequency.

6. The method according to claim 1, wherein selecting a number of transmitted audio signal components for analysis comprises passing transmitting digital audio components through a decimator, wherein every 1 in N audio signal components is transmitted and audio signal components between 1 and N are discarded.

7. The method according to claim 1, wherein classifying the audio signal further comprises turning on a flag in a header of a packet of digital audio information, wherein the flag provides an indication of classification of the audio signal based upon comparison of the recorded result of analysis and the threshold value.

8. The method according to claim 1, further comprising:

transmitting components of the audio signal having a frequency less than a predetermined frequency; and
selecting a number of transmitted audio signal components for analysis.

9. The method according to claim 1, wherein classifying the audio signal occurs at a transmitting end of an audio transmission system.

10. The method according to claim 1, wherein classifying the audio signal occurs at a receiving end of an audio transmission system.

11. The method according to claim 1, wherein the audio signal is one of an analog signal and a digital signal.

12. The method according to claim 1, wherein the threshold value used in the comparison is pre-determined and pre-set by a user.

13. The method according to claim 1, wherein the threshold value used in the comparison determined through trial and error of a plurality of iterations in a comparing device.

14. The method according to claim 1, wherein analyzing selected audio signal components comprises counting zero point transitions of the audio signal for a predetermined period of time.

15. The method according to claim 1, further comprising:

converting the audio signal from an analog signal to a digital signal;

encoding the audio signal;

packetizing the audio signal;

transmitting the audio signal;

decoding the audio signal; and

processing the audio signal, wherein processing at least comprises one of storing the audio signal and playing the audio signal.

16. An apparatus for classifying an audio signal, the apparatus comprising:

a zero point counter for counting and recording zero point transitions encountered in analysis of the selected audio signal components; and

a comparator for comparing a recorded result of analysis to a threshold value and classifying the audio signal based upon comparison of the recorded result of analysis and the threshold value.

17. The apparatus according to claim 16, wherein classifying the audio signal based upon comparison of the recorded result of analysis and the threshold value in the comparator further comprises:

if the recorded result of analysis is greater than the threshold value, then the audio signal is determined to be music; and

if the recorded result of analysis is less than the threshold value, then the audio signal is determined to be speech.

18. The apparatus according to claim 16, further comprising:

a low pass filter for preventing transmission of components of the audio signal having a frequency greater than a predetermined frequency; and

a decimator for selecting a reduced number of audio components for analysis.

19. The apparatus according to claim 18, wherein the decimator selecting a reduced number of audio components for analysis comprises the decimator selecting every 1 in N audio signal components to be transmitted and selecting the audio signal components between 1 and N to be discarded.

20. The apparatus according to claim 16, further comprising at least one of an audio signal encoder and an audio signal decoder.

21. The apparatus according to claim 20, further comprising a speech/music classifying device being associated with the audio signal encoder.

22. The apparatus according to claim 20, further comprising a speech/music classifying device being associated with the audio signal decoder.

23. The apparatus according to claim 20, further comprising a signal processor and an audio processing unit associated with the audio signal decoder.

24. The apparatus according to claim 20, further comprising a bitstream multiplexer associated with the audio signal decoder.